

# ED–2873

## B. C. A. (Part III) EXAMINATION, 2021

Paper Third

COMPUTER SYSTEM ARCHITECTURE

*Time : Three Hours*

*Maximum Marks : 50*

**Note :** Attempt any *two* parts from each question. All questions carry equal marks.

### Unit—I

1. (a) Describe the following code :
  - (i) Grey code
  - (ii) BCD code
- (b) Subtract the binary number 1001001 with 11111 using 2's complements.
- (c) Discuss about the error detecting and correcting codes.

### Unit—II

2. (a) Discuss the Boolean algebra and its law.

- (b) Draw the circuit diagram of full adder and explain truth table.
- (c) Find SOP of the following using K-map

$$F(A, B, C) = \Sigma(1, 2, 5, 7)$$

### Unit—III

- 3. (a) Draw the block diagram of micro computer and explain it.
- (b) Explain the registers function of intel 8086 microprocessor.
- (c) Explain the following :
  - (i) Microprocessor control signal
  - (ii) System buses

### Unit—IV

- 4. (a) Discuss about the memory mapped I/O.
- (b) Write the differences between synchronous and asynchronous data transfer.
- (c) Write short notes on I/O devices and their controllers.

### Unit—V

- 5. (a) Discuss about the semi conductor memory.

- (b) Explain the page replacement algorithms
- (c) Explain the following :
  - (i) Cache memory
  - (ii) Page table

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